

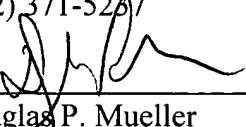
Remarks

Claims 1-29, 31, 50-64, 74 and 75 are pending in the application. The requirement of a protective layer that contains sulfur in claims 1 and 31 is supported, for example, at pages 6-8 of the specification and original claim 27. Favorable consideration is requested.

Respectfully Submitted,

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Dated: November 18, 2002

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S/N 09/390,228

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	UNO et al.	Examiner:	M. ANGEBRANNDT
Serial No.:	09/390,228	Group Art Unit:	1756
Filed:	SEPTEMBER 3, 1999	Docket No.:	10873.274US11
Title:	OPTICAL INFORMATION RECORDING MEDIUM, PRODUCING METHOD THEREOF AND METHOD OF RECORDING/ERASING/ REPRODUCING INFORMATION		

MARKED UP VERSION TO ILLUSTRATE CHANGES MADE

1. (Amended) An optical information recording medium comprising a substrate and a multilayer film, the multilayer film comprising:

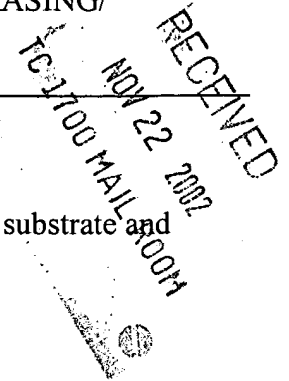
- a barrier layer;
- a first protective layer that comprises sulfur; and
- a recording layer generating a reversible phase-change which can be optically detected according to an irradiation of an energy beam;

wherein said barrier layer is formed between said first protective layer and said recording layer and in contact with said first protective layer and said recording layer, and includes one selected from the group consisting of GeN and GeNO and at least one element selected from the group consisting of Al, B, Ba, Bi, C, Ca, Ce, Cr, Dy, Eu, Ga, Hf, In, K, La, Mn, Nb, Ni, Pb, Pd, Si, Sn, Ta, Ti, V, W, Yb, Zn, and Zr.

31. (Three Times Amended) A method of recording/erasing/reproducing optical information, comprising the steps of:

providing an optical information recording medium comprising a substrate and a multilayer film, the multilayer film comprising a recording layer generating a reversible phase-change which can be optically detected according to an irradiation of an energy beam, a barrier layer, and a protective layer that comprises sulfur;

recording a signal to said recording layer by irradiating said recording layer with a modulated laser beam erasing a signal recorded on said recording layer by irradiating said recording layer with a laser beam having a predetermined power level;



reproducing a signal recorded on said recording layer by irradiating a laser beam to said recording layer and detecting a light strength of a reflection light or a transmitted light from said recording layer;

wherein said barrier layer is formed between said protective layer and said recording layer and in contact with said protective layer and said recording layer, and includes one of GeN and GeNO and at least one element selected from the group consisting of Al, B, Ba, Bi, C, Ca, Ce, Cr, Dy, Eu, Ga, Hf, In, K, La, Mn, Nb, Ni, Pb, Pd, Si, Sn, Ta, Ti, V, W, Yb, Zn, and Zr.

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